



ScottishPower No More Estimated Bills

gas and electricity

[Click here for more information](#)



Online discussions

index

Index for magnesium

background

Key data; description

History

magnesium around us

Uses

Geology

Biology

magnesium compounds

Reactions of magnesium

Compounds

Bond enthalpies

Radii in compounds

Lattice energies

Reduction potentials

electronic properties

Electronic configuration

Ionization energies

Magnesium



12

Mg

24.3050(6)



Pic

Swit

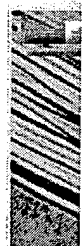


Go ad

Li

Na

K



comp
Select
below

Compounds of magnesium:

magnesium (II) fluoride

- Formula as commonly written: MgF_2
- Hill system formula: F_2Mg_1
- CAS registry number: [7783-40-6]
- Formula weight: 62.302
- Class: fluoride

Synonyms

- magnesium (II) fluoride
- magnesium difluoride
- magnesium fluoride

Physical properties

- Colour: white
- Appearance: crystalline solid
- Melting point: 1248°C
- Boiling point: 2239°C
- Density: 3148 kg m^{-3}

Element analysis and oxidation numbers

For each compound, and where possible, a formal oxidation number for each element is given, but the usefulness of this number is limited, especially so for *p*-block elements in particular. Based upon that oxidation number, an electronic configuration is also given but note that for more exotic compounds you should view this as a guide only.

Electron affinities
Electronegativities
Effective nuclear charges
Electron binding energies
Atom radii
Valence shell radii
physical properties
Bulk properties (density, resistivity, etc.)
Thermal properties (melting point, etc.)
Thermodynamic properties
crystallography
Crystal structure
[view VR world]
[view pdb image]
nuclear properties
NMR
Naturally occurring isotopes
Radioisotopes

Element	%	Formal oxidation state	Formal electronic configuration
F	60.99	-1	[He].2s ² .2p ⁶
Mg	39.01	2	[Ne]

below Fluor
MgF
Chlor
MgC

Synthesis

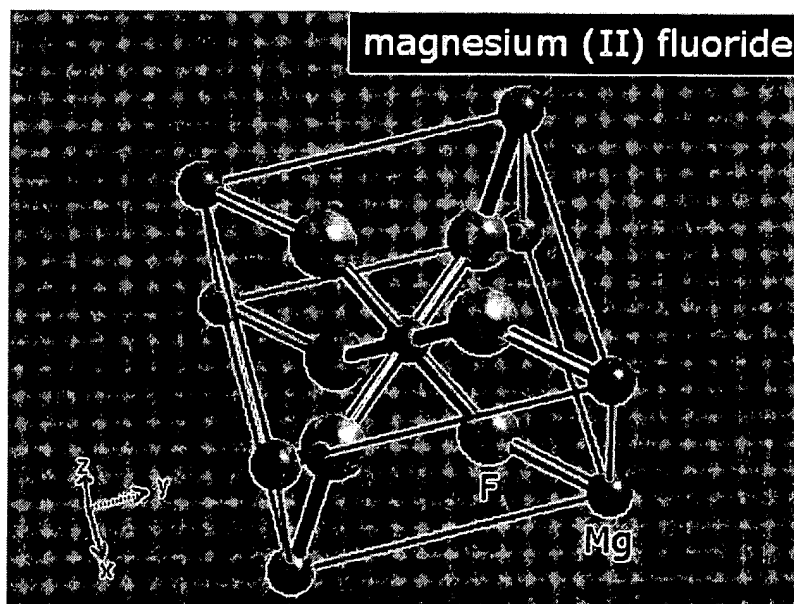
Not available

Brom
MgB

Solid state structure

- Geometry of magnesium:
- Prototypical structure: TiO₂ (rutile)

MgB
Iodide
MgI



Hydri
MgH

Oxide
MgO

MgO

Sulfid
MgS

Selen
MgS

Tellur
MgT

Isotope pattern

What follows is the calculated isotope pattern for the MgF₂ unit with the most intense ion set to 100%.

Nitrid
Mg₃

Formula: Mg₁F₂

mass	%
62	100.0
63	12.7
64	13.9

Chemdex
The directory of
chemistry on the
WWW

WebElements

WebElements Scholar
Edition

WebElements online
book store

Suppliers

Coming soon....



book store

 PalmElements for
your Palm

 WapElements
for your phone



Copyright

Acknowledgements

Help

About WebElements

WebElements wall
chart

Search by keywords:
 





References

The data on these compounds pages are assembled and adapted from the primary literature and several other sources including the following.

- R.T. Sanderson in *Chemical Periodicity*, Reinhold, New York, USA, 1960.
- N.N. Greenwood and A. Earnshaw in *Chemistry of the Elements*, 2nd edition, Butterworth, UK, 1997.
- F.A. Cotton, G. Wilkinson, C.A. Murillo, and M. Bochmann, in *Advanced Inorganic Chemistry*, John Wiley & Sons, 1999.
- A.F. Trotman-Dickenson, (ed.) in *Comprehensive Inorganic Chemistry*, Pergamon, Oxford, UK, 1973.
- R.W.G. Wyckoff, in *Crystal Structures*, volume 1, Interscience, John Wiley & Sons, 1963.
- A.R. West in *Basic solid state chemistry Chemistry*, John Wiley & Sons, 1999.
- A.F. Wells in *Structural inorganic chemistry*, 4th edition, Oxford, UK, 1975.
- J.D.H. Donnay, (ed.) in *Crystal data determinative tables*, ACA monograph number 5, American Crystallographic Association, USA, 1963.
- D.R. Lide, (ed.) in *Chemical Rubber Company handbook of chemistry and physics*, CRC Press, Boca Raton, Florida, USA, 77th edition, 1996.
- J.W. Mellor in *A comprehensive treatise on inorganic and theoretical chemistry*, volumes 1-16, Longmans, London, UK, 1922-1937.
- J.E. Macintyre (ed.) in *Dictionary of inorganic compounds*, volumes 1-3, Chapman & Hall, London, UK, 1992.

WebElements is the periodic table on the WWW

 WebElements™, the periodic table on the WWW, URL: <http://www.webelements.com/>
Copyright 1993-2002 Mark Winter [The University of Sheffield and WebElements Ltd, UK]. All rights reserved.
Document served: Tuesday 20th August, 2002



ScottishPower No More Estimated Bills

gas and electricity

[Click here for more information](#)



Online discussions

index

[Index for magnesium](#)

background

[Key data; description](#)

[History](#)

magnesium around us

[Uses](#)

[Geology](#)

[Biology](#)

magnesium compounds

[Reactions of magnesium](#)

[Compounds](#)

[Bond enthalpies](#)

[Radii in compounds](#)

[Lattice energies](#)

[Reduction potentials](#)

electronic properties

[Electronic configuration](#)

[Ionization energies](#)

Magnesium



12

Mg

24.3050(6)



Pic

Swit

Compounds of magnesium:

magnesium (II) oxide

- Formula as commonly written: MgO
- Hill system formula: Mg₁O₁
- CAS registry number: [1309-48-4]
- Formula weight: 40.304
- Class: oxide

Synonyms

- magnesium (II) oxide
- magnesium oxide
- magnesia
- periclase

Physical properties

- Colour: white
- Appearance: crystalline solid
- Melting point: 2830°C
- Boiling point: 3600°C
- Density: 3600 kg m⁻³

Element analysis and oxidation numbers

For each compound, and where possible, a formal oxidation number for each element is given, but the usefulness of this number is limited, especially so for *p*-block elements in particular. Based upon that oxidation number, an electronic configuration is also given but note that for more exotic compounds you should view this as a guide only.



Go ad



comp
Select
below

Electron affinities

Electronegativities

Effective nuclear charges

Electron binding energies

Atom radii

Valence shell radii

physical properties

Bulk properties (density, resistivity, etc.)

Thermal properties (melting point, etc.)

Thermodynamic properties

crystallography

Crystal structure

[view VR world]

[view pdb image]

nuclear properties

NMR

Naturally occurring isotopes

Radioisotopes

The Orbitron



A gallery of orbitals

WebElements

WebElements Scholar Edition

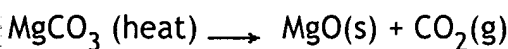
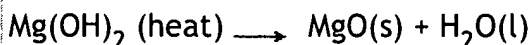
WebElements online book store

for more exotic compounds you should view this as a guide only.

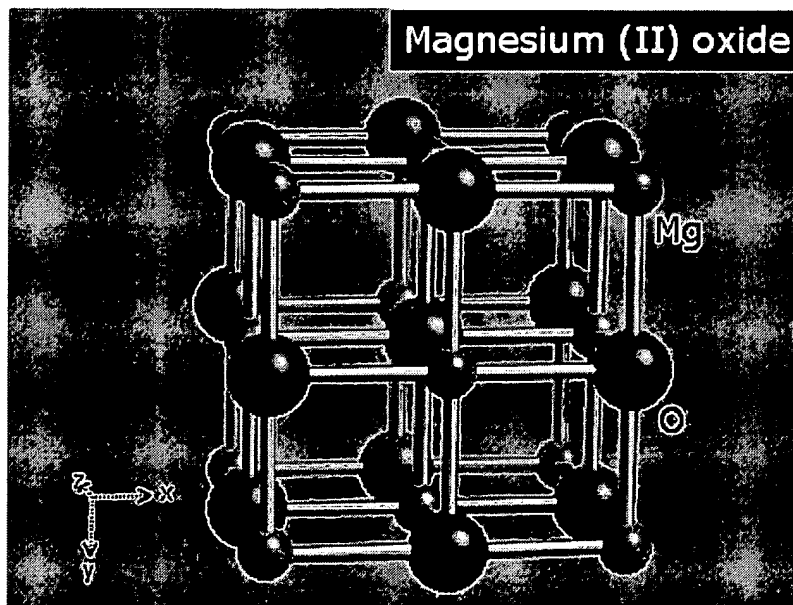
Element	%	Formal oxidation state	Formal electronic configuration
Mg	60.30	2	[Ne]
O	39.70	-2	[He].2s ² .2p ⁶

Synthesis

Magnesium oxide is available from the thermal degradation of magnesium hydroxide or magnesium carbonate.

**Solid state structure**

- Geometry of magnesium: 6 coordinate: octahedral
- Prototypical structure: NaCl (rock salt)

**Isotope pattern**

What follows is the calculated isotope pattern for the MgO unit with the most intense ion set to 100%.

Formula: Mg₁O₁

mass	%
40	100.0

below

Fluor

MgF

Chlor

MgC

Brom

MgB

MgB

Iodide

MgI

Hydri

MgH

Oxide

MgO

MgO

Sulfid

MgS

Selen

MgS


Tellur

MgT

Nitrid

Mg₃

book store

 PalmElements for
your Palm

40	100.0
41	12.7
42	14.1
43	0.0
44	0.0

 WapElements
for your phone

Suppliers

Coming soon....

Copyright

Acknowledgements

References

Help

About WebElements

WebElements wall
chart

Search by keywords:


magnesium



amazon.com.

- R.T. Sanderson in *Chemical Periodicity*, Reinhold, New York, USA, 1960.
- N.N. Greenwood and A. Earnshaw in *Chemistry of the Elements*, 2nd edition, Butterworth, UK, 1997.
- F.A. Cotton, G. Wilkinson, C.A. Murillo, and M. Bochmann, in *Advanced Inorganic Chemistry*, John Wiley & Sons, 1999.
- A.F. Trotman-Dickenson, (ed.) in *Comprehensive Inorganic Chemistry*, Pergamon, Oxford, UK, 1973.
- R.W.G. Wyckoff, in *Crystal Structures*, volume 1, Interscience, John Wiley & Sons, 1963.
- A.R. West in *Basic solid state chemistry Chemistry*, John Wiley & Sons, 1999.
- A.F. Wells in *Structural inorganic chemistry*, 4th edition, Oxford, UK, 1975.
- J.D.H. Donnay, (ed.) in *Crystal data determinative tables*, ACA monograph number 5, American Crystallographic Association, USA, 1963.
- D.R. Lide, (ed.) in *Chemical Rubber Company handbook of chemistry and physics*, CRC Press, Boca Raton, Florida, USA, 77th edition, 1996.
- J.W. Mellor in *A comprehensive treatise on inorganic and theoretical chemistry*, volumes 1-16, Longmans, London, UK, 1922-1937.
- J.E. Macintyre (ed.) in *Dictionary of inorganic compounds*, volumes 1-3, Chapman & Hall, London, UK, 1992.

WebElements is the periodic table on the WWW

 WebElements™, the periodic table on the WWW, URL: <http://www.webelements.com/>

Copyright 1993-2002 Mark Winter [The University of Sheffield and WebElements Ltd, UK]. All rights reserved.

Document served: Tuesday 20th August, 2002



ScottishPower No More Estimated Bills

gas and electricity

[Click here for more information](#)



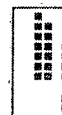
Online discussions

Silicon

14

Si

28.0855(3)



Pic

Swit

index

Index for silicon

Compounds of silicon:

background

Key data; description

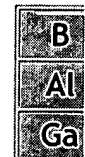
History

silicon (IV) dioxide

- Formula as commonly written: SiO_2
- Hill system formula: O_2Si_1
- CAS registry number: [14808-60-7]
- Formula weight: 60.084
- Class: oxide



Go ad



silicon around us

Uses

Geology

Biology

Synonyms

- silicon (IV) dioxide
- silicon dioxide
- silicon oxide
- beta quartz
- quartz



silicon compounds

Reactions of silicon

Compounds

Bond enthalpies

Radii in compounds

Physical properties

- Colour: white
- Appearance: crystalline solid
- Melting point: 1710°C (via transformations starting at 867°C to different silica forms)
- Boiling point: 2590°C
- Density: 2533 kg m^{-3}

electronic properties

Electronic configuration

Ionization energies

Element analysis and oxidation numbers

Electron affinities

For each compound, and where possible, a formal oxidation number for each element is given, but the usefulness of this number is limited,

comp
Select below

Electronegativities

Effective nuclear charges

Electron binding energies

Atom radii

Valence shell radii

physical propertiesBulk properties
(density, resistivity,
etc.)Thermal properties
(melting point, etc.)Thermodynamic
properties**crystallography**

Crystal structure

[view VR world]

[view pdb image]

nuclear properties

NMR

Naturally occurring
isotopes

Radioisotopes

especially so for *p*-block elements in particular. Based upon that oxidation number, an electronic configuration is also given but note that for more exotic compounds you should view this as a guide only.

Element	%	Formal oxidation state	Formal electronic configuration
O	53.26	-2	[He].2s ² .2p ⁶
Si	46.74	4	[Ne]

below

Fluor

SiF

Chlor

SiC

Brom

SiB

IodideSiI₄**Hydri**

SiH

Si₂**Oxide**

SiO

SulfidSiS₂**S len**

non

Tellur

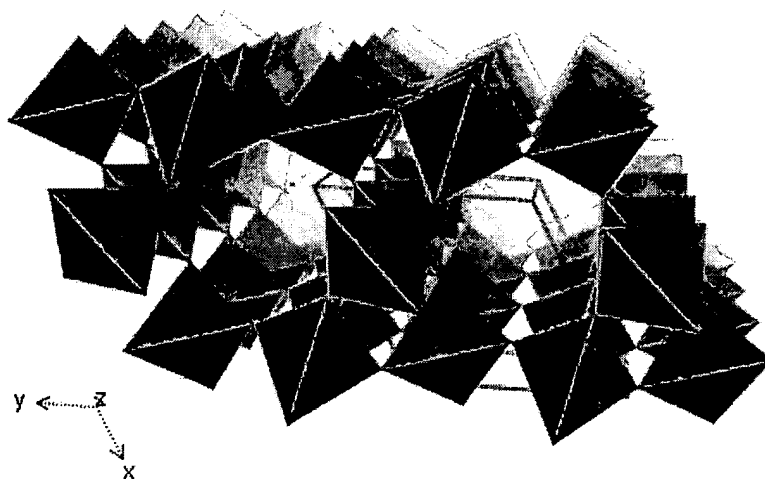
non

NitridSi₃**Synthesis**

Not available

Solid state structure

- Geometry of silicon: 4 coordinate: tetrahedral
- Prototypical structure:

**Isotope pattern**

What follows is the calculated isotope pattern for the SiO₂ unit with the most intense ion set to 100%.

Formula: Si₁O₂

mass	%
60	100.0
61	5.1
62	3.8
63	0.0
64	0.0

One
silic
life
exis

Resu

ChemJobs.NET
Click here to
find your next
job in Chemistry

WebElementsWebElements Scholar
EditionWebElements online
book store

PalmElements for

-- PalmElements for
your Palm

64 0.0

Resu
Mor

 WapElements
for your phone

Suppliers

Coming soon....

Copyright

References

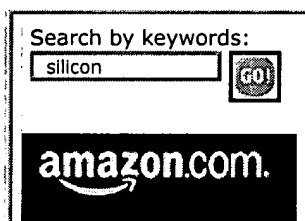
Acknowledgements

The data on these compounds pages are assembled and adapted from the primary literature and several other sources including the following.

Help

About WebElements


WebElements wall
chart



- R.T. Sanderson in *Chemical Periodicity*, Reinhold, New York, USA, 1960.
- N.N. Greenwood and A. Earnshaw in *Chemistry of the Elements*, 2nd edition, Butterworth, UK, 1997.
- F.A. Cotton, G. Wilkinson, C.A. Murillo, and M. Bochmann, in *Advanced Inorganic Chemistry*, John Wiley & Sons, 1999.
- A.F. Trotman-Dickenson, (ed.) in *Comprehensive Inorganic Chemistry*, Pergamon, Oxford, UK, 1973.
- R.W.G. Wyckoff, in *Crystal Structures*, volume 1, Interscience, John Wiley & Sons, 1963.
- A.R. West in *Basic solid state chemistry Chemistry*, John Wiley & Sons, 1999.
- A.F. Wells in *Structural inorganic chemistry*, 4th edition, Oxford, UK, 1975.
- J.D.H. Donnay, (ed.) in *Crystal data determinative tables*, ACA monograph number 5, American Crystallographic Association, USA, 1963.
- D.R. Lide, (ed.) in *Chemical Rubber Company handbook of chemistry and physics*, CRC Press, Boca Raton, Florida, USA, 77th edition, 1996.
- J.W. Mellor in *A comprehensive treatise on inorganic and theoretical chemistry*, volumes 1-16, Longmans, London, UK, 1922-1937.
- J.E. Macintyre (ed.) in *Dictionary of inorganic compounds*, volumes 1-3, Chapman & Hall, London, UK, 1992.



WebElements is the periodic table on the WWW

 WebElements™, the periodic table on the WWW, URL: <http://www.webelements.com/>
Copyright 1993-2002 Mark Winter [The University of Sheffield and WebElements Ltd, UK]. All rights reserved.
Document served: Tuesday 20th August, 2002



ScottishPower No More Estimated Bills
gas and electricity [Click here for more information](#)



Online discussions

Aluminium

13
Al
26.981538(2)



Pi

Sw

index

Index for aluminium

Compounds of aluminium:

background

Key data; description

History

aluminium (III) oxide

- Formula as commonly written: Al_2O_3
- Hill system formula: Al_2O_3
- CAS registry number: [1344-28-1]
- Formula weight: 101.961
- Class: oxide

aluminium around us

Uses

Geology

Biology

aluminium compounds

Reactions of aluminium

Compounds

Bond enthalpies

Radii in compounds

Lattice energies

Reduction potentials

electronic properties

Electronic configuration

Ionization energies

Synonyms

- aluminium (III) oxide
- aluminium oxide
- aluminium oxide (α)
- α -alumina
- α -aluminium oxide
- corundum
- dialuminium trioxide

Physical properties

- Colour: white
- Appearance: crystalline solid
- Melting point: 2054°C
- Boiling point: 3000°C
- Density: 4000 kg m⁻³

Element analysis and oxidation numbers

For each compound, and where possible, a formal oxidation



Go a



Be



Mg



Zn



Al



Fe



Cu



Ag



Au



Pt



Pd



Ni



Co

Electron affinities

Electronegativities

Effective nuclear charges

Electron binding energies

Atom radii

Valence shell radii

physical propertiesBulk properties
(density, resistivity,
etc.)Thermal properties
(melting point, etc.)Thermodynamic
properties**crystallography**

Crystal structure

[\[view VR world\]](#)[\[view pdb image\]](#)**nuclear properties**

NMR

Naturally occurring
isotopes

Radioisotopes



WebElements

WebElements Scholar
EditionWebElements online
book store

For each compound, and where possible, a formal oxidation number for each element is given, but the usefulness of this number is limited, especially so for *p*-block elements in particular. Based upon that oxidation number, an electronic configuration is also given but note that for more exotic compounds you should view this as a guide only.

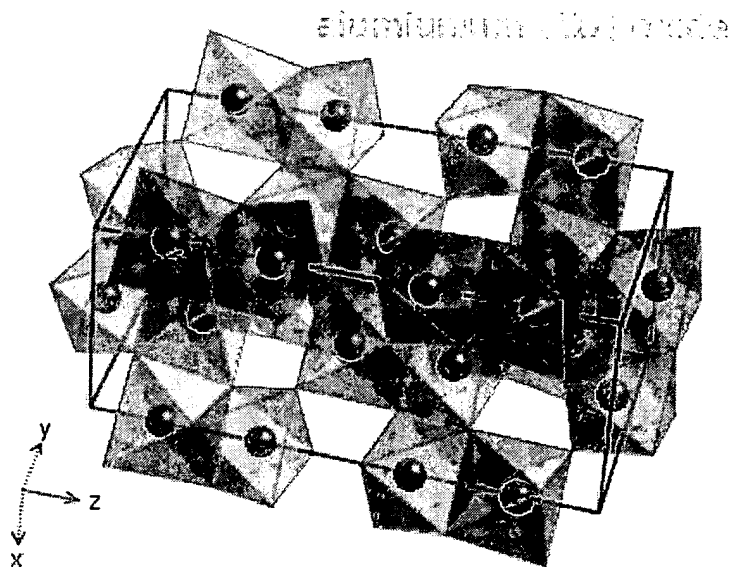
Element	%	Formal oxidation state	Formal electronic configuration
Al	52.93	3	[Ne]
O	47.07	-2	[He].2s ² .2p ⁶

Synthesis

Not available

Solid state structure

- Geometry of aluminium: 6 coordinate: octahedral
- Prototypical structure:

**Isotope pattern**

What follows is the calculated isotope pattern for the Al₂O₃ unit with the most intense ion set to 100%.

Formula: Al₂O₃

mass	%
102	100.0

below

Fluo

Al

Chlo

Al

Al

Brom

Al

[A

Iodid

[A

Hydr

Al

Oxid

Al

Sulfi

Al

Sele

Al

Tellu

Al


Nitri

Al

Th
sp
ele
C
C
C
C
V


book store

102 100.0
103 0.1
104 0.6

 PalmElements for
your Palm

Suppliers



 WapElements
for your phone

Coming soon....

Copyright

References

Acknowledgements

The data on these compounds pages are assembled and adapted from the primary literature and several other sources including the following.

Help

About WebElements

WebElements wall
chart

Search by keywords:

aluminium




amazon.com.

- R.T. Sanderson in *Chemical Periodicity*, Reinhold, New York, USA, 1960.
- N.N. Greenwood and A. Earnshaw in *Chemistry of the Elements*, 2nd edition, Butterworth, UK, 1997.
- F.A. Cotton, G. Wilkinson, C.A. Murillo, and M. Bochmann, in *Advanced Inorganic Chemistry*, John Wiley & Sons, 1999.
- A.F. Trotman-Dickenson, (ed.) in *Comprehensive Inorganic Chemistry*, Pergamon, Oxford, UK, 1973.
- R.W.G. Wyckoff, in *Crystal Structures*, volume 1, Interscience, John Wiley & Sons, 1963.
- A.R. West in *Basic solid state chemistry Chemistry*, John Wiley & Sons, 1999.
- A.F. Wells in *Structural inorganic chemistry*, 4th edition, Oxford, UK, 1975.
- J.D.H. Donnay, (ed.) in *Crystal data determinative tables*, ACA monograph number 5, American Crystallographic Association, USA, 1963.
- D.R. Lide, (ed.) in *Chemical Rubber Company handbook of chemistry and physics*, CRC Press, Boca Raton, Florida, USA, 77th edition, 1996.
- J.W. Mellor in *A comprehensive treatise on inorganic and theoretical chemistry*, volumes 1-16, Longmans, London, UK, 1922-1937.
- J.E. Macintyre (ed.) in *Dictionary of inorganic compounds*, volumes 1-3, Chapman & Hall, London, UK, 1992.



WebElements is the periodic table on the WWW

 WebElementsTM, the periodic table on the WWW, URL: <http://www.webelements.com/>

Copyright 1993-2002 Mark Winter [The University of Sheffield and WebElements Ltd, UK]. All rights reserved.

Document served: Tuesday 20th August, 2002